

## **REMARKS**

Claims 1, 3-9 and 11-20 are pending in the application. Claims 2 and 10 are canceled without prejudice or disclaimer. Reconsideration of the claims is respectfully requested.

It was indicated in the Office Action that claims 2 and 10 contained allowable subject matter. Independent claims 1 and 9 have been amended to include features from claims 2 and 10 respectively, and claims 2 and 10 have been cancelled.

New claims 21-28 have been added. New independent claim 21 is directed to a tunable optical filter, comprising a first waveguide formed from a first waveguide material and a second waveguide disposed parallel to and proximate the first waveguide so as to form a directional coupler filter. An amplifying material, having a composition different from the composition of the first waveguide material, is disposed in a parallel relationship proximate the first waveguide. The amplifying material is capable of amplifying light at the same time as the light propagates along the first waveguide of the directional coupler filter. This claim is supported by the illustration shown in FIG. 4, and the description thereof in the Specification.

None of the cited art shows this structure. In particular, none of the cited art shows a directional coupler filter formed of two waveguides where there is amplifying material disposed proximate one of the waveguides so as to amplify light as it passes along the directional coupler filter.

New claim 25 is related to a tunable optical filter that includes a first waveguide formed from a first tunable waveguide material. The first waveguide has an input to receive input light. A distributed Bragg grating is disposed proximate the first waveguide so as to form a distributed Bragg reflector that reflects light propagating along the first waveguide at a selected wavelength, the reflected light passing out of first waveguide at the input. An electrode is disposed proximate the first waveguide and the selected wavelength is variable according to an amount of current passing through the first waveguide from the electrode. An amplifying material has a composition different from the composition of the first tunable waveguide material. The amplifying material is disposed in a parallel relationship proximate the first waveguide so as to be capable of amplifying light at the same time as the light propagates along the first waveguide when a current passes from the electrode through the amplifying material. This claim is supported by the illustration in FIG. 5, and the description thereof in the Specification.

None of the cited art shows this structure. In particular, none of the cited art shows a distributed Bragg reflector (DBR) filter where there is amplifying material disposed proximate one of the waveguides so as to amplify light as it passes along the DBR filter.

Claims 22-24 and 26-26 further define the inventions of claims 21 and 25.

It is believed that all pending claims are in condition for allowance. Applicant respectfully requests favorable reconsideration and early allowance of all pending claims.

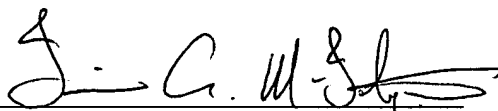
If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicant's attorney of record, Iain A. McIntyre at (612) 436-9610.

Respectfully submitted,

CCVL  
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By:

  
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